

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Public Interest Obligations )		
Of TV Broadcast Licensees	)	MM Docket No. 99-360
	)	

**NOTICE OF INQUIRY**

**COMMENTS OF THE WGBH EDUCATIONAL FOUNDATION  
MEDIA ACCESS DIVISION**

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**I. INTRODUCTION**

The WGBH Educational Foundation's Media Access division is pleased to be able to offer the following comments regarding the Federal Communications Commission's Notice of Inquiry as to the Public Interest Obligations of TV Broadcast Licensees, MM Docket No. 99-360 (the "Notice"). The Federal Communications Commission ("the Commission") has asked vital questions which will serve as the basis for a

comprehensive public interest proceeding that will help assure that our nation's next generation television system will be accessible to and usable by people with disabilities.

Media Access at WGBH consists of The Caption Center, Descriptive Video Service<sup>®</sup> (DVS) and the CPB/WGBH National Center for Accessible Media (NCAM). Together, these departments within the nation's premiere public broadcasting organization have pioneered and delivered accessible media to disabled students, adults, and their families, teachers, and friends since 1972.

The director of Media Access at WGBH had the opportunity to present the issues discussed below before the President's Advisory Committee on the Public Interest Obligations of Digital Television Broadcasters ("Advisory Committee"). In that presentation, and in these comments, the following issues were and are emphasized:

- Existing and pending closed captioning and video description mandates need to be fully implemented in DTV, including within each new multicast channel;
- Development of DTV closed captioning and video description infrastructure is far from complete; more active involvement in standards activities and initiation of on-air testing is needed by commercial broadcasters;
- Data space for closed captioning and video description needs to be set-aside, preserved and protected;
- Ancillary and supplementary data services need to be designed and provided in an accessible manner;
- Consumer equipment and reception devices need to have accessible user interfaces.
- Public information ("public inspection files") should be available on web sites designed according to industry guidelines for accessible web site design.

To facilitate successful and widespread implementation of many of these goals, the Commission should consider establishment of a "DTV Access R&D Fund" funded by the fees required under §336(e) of the Telecommunications Act of 1996. The results of

the R&D efforts funded under such a program would be made freely and publicly available to all.

## **II. AREAS OF INQUIRY AND REQUEST FOR COMMENTS**

People with disabilities have a great deal of concern about how the technologies being deployed by digital television (DTV) broadcasters are designed and produced. Access to the content is of course the primary issue, especially for people with sensory disabilities who rely on closed captioning and video description. But of almost equal concern are the questions of user interfaces and ancillary data services, which promise to bring innumerable additional benefits to consumers in the near future.

### **A. Challenges Unique to the Digital Era**

#### **Real-world Tests Needed**

As the Commission has noted in ¶9 of the Notice, these concerns are relevant most immediately during the transition period when emphasis must be on backward compatibility and protection of existing access services for people who are deaf, hard of hearing, blind or visually impaired. While standards exist or are in development for the production, origination, transmission, and reception of closed captioning and video description, over-the-air testing of these services are only just beginning, mostly by public broadcasters and at the Model DTV Station in Washington, DC. More rapid development and real-world tests of access services are needed by DTV broadcasters in, as a minimum, the following areas:

- time-of-air transcoding of linear, line-21 captions to the emerging DTV caption standard known as EIA 708-B;
- transmission and reception of live, real-time captioning in the DTV environment;
- production, transmission and reception of "native 708" captions with advanced, user-controllable caption features;
- production, transmission and reception of video description.

Broadcasters have been involved in the various standards committees working on these issues, but actual transmission of captioning and video description by any of the more than one hundred existing DTV commercial broadcasters has yet to begin. The goals of the Commission and the interests of consumers will be vastly served when DTV broadcasters make a greater effort to test the existing and developing systems for captioning and description in DTV rather than waiting for Commission action or absolute final standards to be voted upon and accepted.

### Multicasting

In ¶ 11 of the Notice, the Commission inquires as to the obligations of DTV broadcasters as they begin the practice of multicasting on their digital channels. The Commission is presently undergoing review of a proposed rulemaking regarding DTV closed captioning under the requirements of the Telecommunications Act. We feel that the requirements incumbent upon broadcasters today regarding closed captioning should also apply to each multicast channel provided by DTV broadcasters. There is nothing in the record of the provisions of the Act nor in the previous closed captioning Rulemaking that indicate that because a broadcaster is providing multiple services that it should have more limited responsibilities than a broadcaster which has only one active channel. In addition, as the Commission considers a Rulemaking in the area of video description, the Commission should consider extended these provisional rules to each of the multicast channels as well.

### Ancillary and Supplementary Services

The challenges of assuring the accessibility of to-be-determined future services are obviously more than just difficult. Some suggested services include pager networks, cellular and digital telephony, e-commerce applications, and educational enhancements such as program guides, homework helpers, teachers guides, computer software distribution, interactive services and others. Assuring accessibility of these services

could entail, among other things, offering a text option for material that is presented aurally and an audio option for material otherwise presented visually. This would include adaptation of content as well as the user interfaces that allow consumers to find and make use of these new services.

However, as broadcasters begin to determine the array of ancillary and supplementary services they will make available to consumers and businesses, there will be an immediate need to take a deeper look at accessibility features. We suggest that, with the fees required under §336(e) of the Telecommunications Act of 1996, that the Commission establish a research and development fund to develop and provide solutions to all broadcasters for these difficult access challenges. Broadcasters and their datacasting and digital service partners are not likely to be equipped to grapple with accessibility problems nor will they be amenable to funding the sort of innovative research or standards development needed in this new and uncharted world. A "DTV Access R&D Fund" should therefore be available to researchers and institutions with the expertise and background to develop and disseminate non-proprietary access solutions for new ancillary and supplementary services to help broadcasters meet their public interest obligations. This R&D work would need to commence prior to the establishment of services which generate the fees, so an alternate source for seed funding would be required.

## **B. Responding to the Community**

The Commission raises the question of making programming information more available to the public (Notice, ¶¶14-22). We agree that the needs of "ordinary citizens" and DTV broadcasters can be served by user-friendly and clearly designed web sites which contain the types of information previously required by Commission rules to be kept in a "public inspection file." Making such files readily accessible to the public will make the information more vital and current due to more constant scrutiny.

However, we urge the Commission to require that the information posted on broadcasters' web sites be authored under the guidelines developed by the World Wide Web Consortium's Web Access Initiative (W3C/WAI) which assures that such information will be readily usable by people with disabilities. These guidelines, widely disseminated and agreed upon by virtually every Web-based and Internet-using entity, are available at <http://www.w3.org/WAI>. Even if other areas of broadcasters' web sites don't meet all the accessibility guidelines, this public information file should. The guidelines are easy to use and follow and represent no extra burdens for the maintenance of those sites.

### **C. Enhancing Access to the Media**

As we have mentioned above in § II. A., more rapid development and real-world tests of access services are needed by DTV broadcasters. We agree with People for Better TV (PBTv) as quoted in the Notice that the Commission should emphasize, "expansion of services to person [sic] with disabilities." The specific expansion referred to by PBTv includes "closed captioning and description services for the blind of PSAs, public affairs programming, and political programming."

While captioning rules previously adopted by the Commission<sup>1</sup> cover most of the public affairs and political programming in analog television (except for that broadcast in the overnight time slot), PSAs were exempted unless funded by the Federal government. At present, the Commission is considering its rules regarding captioning in digital television in a Notice of Proposed Rulemaking<sup>2</sup> as well as rules for video description in analog as well as possibly digital television<sup>3</sup>. Those Notices provided opportunities for consumers, service providers, programmers and distributors and hardware

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<sup>1</sup> MM Docket No. 95-176, adopted **August 7, 1997**.

<sup>2</sup> ET Docket No. 99-254, adopted: July 14, 1999.

<sup>3</sup> MM Docket No. 99-339, adopted: November 18, 1999.

manufacturers to discuss the issues, concerns and challenges inherent in providing accessible programming in the digital environment.

We expect that those proceedings will give ample guidance to the Commission, industry and consumers as to how captioning and description should be handled in the digital environment. We therefore don't believe a separate ruling under this Notice will be necessary. However, if the Commission in the pending proceedings doesn't fully rule on all of the areas of concern discussed in these comments, we do recommend action under this Notice. In particular, if the Commission declines to set rules regarding video description in DTV, this Notice may serve as an alternate venue for examining this topic. But since this Notice only pertains to broadcasting and not cable, satellite or other means of digital program distribution, it would be inadequate to take up video description here alone.

In this Notice, we have an opportunity to both emphasize the existing and potential obligations of broadcasters regarding enhancing access to the media and to stress the additional areas of concern: ancillary and supplementary services (discussed above); set-aside of bandwidth for video description; protection of the full captioning set-aside (9600 baud at all times regardless of its incident usage); and perhaps of the greatest concern at this time, the recommendation of the Advisory Committee that the Commission and other regulatory authorities, "work with set manufacturers to ensure that modifications in audio channels, decoders, and other technical areas are designed to ensure the most efficient, inexpensive, and innovative capabilities for disability access."

#### Set-aside of Bandwidth for Video Description

The ATSC digital TV standard incorporates the flexibility to use a portion of the entire digital signal for additional audio tracks (for video description or other languages or even director's notes). As the situation presently exists, program producers and distributors will decide whether to use some of their digital bandwidth for video

description. Bandwidth for video description has not been set aside as it has been for closed captioning (which relied on the provisions of the TV Decoder Circuitry Act to guarantee its place in the digital TV standard). Therefore, without a small reserved portion of bandwidth set-aside for video description, program producers and providers will have to make decisions on a case-by-case basis as to whether to use some of their data space for this form of ancillary data. People who are blind or visually impaired will be ill-served if their needs have to be constantly advocated for and represented, especially in the extremely competitive marketplace which seems to make public interest needs the last priority. By setting aside the appropriate amount of bandwidth, and by setting rules under the aforementioned video description rulemaking, consumers, manufacturers and program providers will always know that there is a designated place in the data stream where video description can and will be found. This mechanism has worked extremely well for closed captioning, which has had a recognized analog data location (line 21 of the Vertical Blanking Interval) and will have a similar protection in DTV.

In addition, though the ATSC technical standard allows for ancillary audio services, manufacturers of DTV receivers and set-top boxes have not been required to assure that consumers will be able to receive any or all additional audio services. In order to complete the circuit of requirements or obligations for video description, the Commission should set rules for program providers to offer video description, should require distributors to guarantee proper delivery to the home, and should mandate that builders of DTV receivers and set-top boxes provide access to ancillary audio services in all devices, and that those services can be turned on and off in a user-friendly manner (that is, usable by people who are blind or visually impaired). It is vital to the future of the video description service that all manufacturers include this "feature" in all DTV sets and not just certain models.

#### Protection of the Full Captioning Set-aside



While the appropriate standards committees (EIA, ATSC, SMPTE) have designated an amount of bandwidth and a data location for DTV closed captioning, there are concerns that the modest set-aside of bandwidth for captioning may be desired for services not specifically created for deaf and hard-of-hearing viewers, as mandated by Congress and the FCC. Suggestions have been made that, if caption data isn't being transmitted at all times, that other ancillary data services should be able to use the temporarily available data space. We strongly disagree that such a provision should be allowed. With as many as 16 (or even 64) caption data streams available per DTV signal or program, it is not known how much of this miniscule (9600 baud) bandwidth will be employed from moment to moment.

While multiplexing of data may be commonplace, we believe that any complicating factors that could harm the caption data should be avoided and that the Commission needs to make explicit that the bandwidth and location of caption data should not be used by other services regardless of temporary availability. This is also essential for the ongoing debate over what data services may be designated as "must carry." Though it is widely agreed that data services for people with disabilities should be carried via cable and other means of distribution, such carriage for commercial and income-producing data services are still under debate. It would be inappropriate for other supplementary or ancillary services to "hide" within the caption data stream or use its space to avoid negative must-carry implications. Attempts to "strip out" commercial data services by distributors could be harmful to access services (captioning and description); therefore the commercial data services should be relegated to other data space.

#### Accessible Design of Receivers and Other Reception Devices

Finally, the difficulty of navigating through on-screen menus to use access services must be recognized and resolved. Menu-navigation is an acknowledged problem for

sighted people; people who are blind or visually impaired find it virtually impossible to locate the on-screen menu choices which turn on video descriptions. With a vast array of new services, with multicasting and ancillary audio and data, and with new viewing choices for aspect ratios and screen resolution, assistance must be provided to people with disabilities. Through simple but effective means such as dedicated remote control buttons or even talking on-screen menus (using relatively inexpensive speech synthesis), much greater usability can be provided for all consumers and especially people who are blind or visually impaired. The Commission is encouraged to consider such action as will ensure proper user interface design so that other efforts to make DTV accessible won't be stymied by poor equipment design.

### **III. CONCLUSION**

The Commission's consideration of existing and potential obligations of DTV broadcasters is a welcome and needed activity. With proper action, the Commission can assure equal access to the next generation of mass media in this country. The needs of consumers with disabilities can be readily served through careful forethought, application of judicious rules and access to funding to conquer the toughest accessibility challenges.

Respectfully submitted,

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